

**SPEECH BY THE GUEST-OF-HONOUR, DR NG ENG HEN, MINISTER FOR EDUCATION, SECOND MINISTER FOR DEFENCE AND PATRON OF ROBOCUP 2010 SINGAPORE AT THE OPENING CEREMONY OF ROBOCUP 2010 SINGAPORE AT SUNTEC INTERNATIONAL CONVENTION AND EXHIBITION CENTRE, ON SUNDAY 20 JUNE 2010, 10:30 A.M.**

Dr Manuela M. Veloso  
President, RoboCup Federation,

Dr Zhou Changjiu (周长久)  
Chairman, RoboCup Singapore National Committee,

Members of the Steering and Organising Committees,

Distinguished guests,

Ladies and Gentlemen,

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1. It is my pleasure to welcome you to the Opening Ceremony of RoboCup 2010 Singapore. This event is considered by many as the “Olympics” or the World Cup of the robotics industry, where top talent from around the world compete in the world’s largest robotics and artificial intelligence showcase.

### **A Milestone for Robotics and Intelligent Systems in Singapore**

2. This is the first time in its 13-year history that RoboCup is being held in Southeast Asia, and on such a large scale. I understand that close to 4,000 participants and 500 teams from over 40 countries are here to vie for top honours in different categories. With competitors coming from world-renowned institutions, and from countries ranging from China to Slovenia, this is a rich opportunity for intellectual and cultural exchange. I hope RoboCup 2010 Singapore will inspire all participants to deepen your knowledge of science and technology, and to apply it in creative ways to improve the lives of humanity.

3. The exciting events that you will witness this week would not have been possible without the joint efforts of Singapore Polytechnic (SP), the Science Centre Singapore, and the Singapore Economic Development Board (EDB). These institutions have been active contributors to the creation of Singapore's Robotics and Intelligent Systems eco-system. I wish to share with you some of their contributions.

### **Becoming a Leader in Service Robotics Solutions**

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4. First, the Singapore Economic Development Board has made manufacturing processes more efficient and safer through the use of automation. Now, EDB's vision is to develop Singapore as a leading hub for the commercialisation of service robotics solutions. This will further improve productivity and safety in the workplace, and the quality of life in our society.

5. EDB has identified four growth areas in service robotics where Singapore can play a role. They are (i) logistics, (ii) infrastructure inspection, (iii) transport and (iv) medical services. International companies like Panasonic are working with our local hospitals in medical robotics to test out new solutions and identify key opportunities in unexplored markets. More local companies are also entering the commercial robotics market, with ST-Kinetics actively developing new autonomous solutions for transportation segments and companies like Biobot Surgical and Koo Prime building medical robotics solutions.

### **Grooming World-Class Expertise**

6. Second, to propel the robotics industry, Singapore has to build up a ready pool of talent who are not only comfortable with technology, but who are able to bring its potential to the next level. In this regard, Science and Engineering education in our tertiary institutions are well resourced and supported by the government. In March this year, the Nanyang Technological University established its first dual PhD programme in engineering with Carnegie Mellon University (CMU). CMU's Robotics Institute is one of the world's largest leading centres for robotics research. The EDB will support up to 10 students in this new NTU-CMU programme, which will enable our best minds to gain cutting-edge knowledge in Robotics and Intelligent Systems from two world-class universities. Our 4<sup>th</sup> and newest university, the Singapore University of Technology and Design (SUTD), will offer high-quality education and research programmes in Science and Technology, and is distinguished by a unique tripartite alliance with the Massachusetts Institute of Technology and Zhejiang

University. SUTD will begin its first intake in 2012, and has already launched its first design contest for potential students, entitled “Robots for a Better World.”<sup>1</sup>

7. In the technical education sector, our polytechnics are the bedrock for the training of a technologically competent workforce, given their diverse course offerings and close industry linkages. For Continuing Education and Training, Singapore Polytechnic is working with the Singapore Workforce Development Agency to roll out a new Workforce Skills Qualification Diploma programme in Mechatronics and Robotics, to support the adult workforce in upgrading their skills in this field. Our polytechnics also drive applied research and development in close collaboration with the robotics industry. In 1998, Singapore Polytechnic established the Advanced Robotics and Intelligent Control Centre, or ARICC (*pronounced “Eric”*), which develops customised robotic systems for educational, commercial and industrial applications. ARICC also promotes training in research and development and provides consultancy services, serving as a beacon of expertise for both local and overseas clients.

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Inspiring Public Interest in Science and Technology

8. Third, the Science Centre Singapore has done much to raise awareness and spark public interest in robotics. The Science Centre has organised and hosted numerous local and international robotics events, including prestigious

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<sup>1</sup> “Robots for a Better World” calls for students aged 17-21 to design their dream robot and describe how it will contribute to a better world. The closing date is July 2010. Winners in Singapore will partner tertiary-level students from MIT and 8 other universities in the world to participate in the International Design Competition Robocon to be held in Shanghai in August 2010.

competitions such as the World Robot Olympiad and the FIRST Lego League. These events reach out to primary school students through to adult enthusiasts, educating the general public about new technology and inspiring the next generation to develop a passion for engineering and scientific research.

9. Indeed, robotics competitions have catalysed interest among our students in science and technology from a young age, with over 95 per cent of students aged 10 to 12 taking Maths and Science in schools. Furthermore, the National Junior Robotics Competition, which has been running for 12 years now, has garnered an enthusiastic response from our schools, with an average of more than 700 teams from both primary and secondary schools participating annually. To further promote education in this up-and-coming field, the Science Centre has set up a Robotics Learning Centre, and more recently, a “Fun Lab” in partnership with IT Leisure and Education Pte Ltd, which will allow students and the public to enjoy learning about technology through a variety of hands-on robotics programmes.

### **Forging Friendships through Robotics**

10. I believe RoboCup 2010 Singapore will likewise be an enriching educational experience for all participants. Regardless of whether you are a novice or an expert, you will go home having learnt something – not just about science and technology, but also about the value of teamwork and good sportsmanship. On top of the various competitions, leaders from industry and academia will also come together at the 14<sup>th</sup> annual RoboCup International

Symposium to explore and exchange new ideas. Through your participation in RoboCup 2010 Singapore, I hope you will forge friendships and make connections across cultures that will last beyond this week-long event.

## **Conclusion**

11. In closing, I wish to extend my appreciation to all the organisers of RoboCup 2010 Singapore, which will begin today and run until June 25<sup>th</sup>. Without your dedication and tireless effort behind the scenes, our participants, both local and international, would not have this chance to shine.

12. Thank you and let RoboCup 2010 Singapore begin.

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